REMARKS

Claims 1-17 were rejected under 35 U.S.C. §102 for anticipation by Martin. In these amendments, independent claims 1 and 5 have been amended to specify explicitly demultiplexing then remultiplexing to recreate the supercarrier signal. This is shown in figure 3 and other figures, and was in claim 12 as originally filed, so there is no question of new matter. Independent claims 10 and 11, directed to a transparent demultiplexer and a transparent multiplexer, respectively, have been amended to clarify the distinctive feature of the messaging information being for recreating the supercarrier signal. Again there is no new matter, since the original claims 1 and 5 referred to messaging information required to maintain the first protocol, and page 11 lines 3 and 4 and lines 24-27 indicate that messaging information of the STM-64 signals (supercarrier) must be passed unaltered along the STM-16 sections (tribs) to maintain the STM-64 protocol. New independent claims 18 and 19 correspond closely to claims 10 and 11, but without using "means for" language. New independent claims 20 and 21 are for software for implementing the apparatus of claims 10 and 11.

Regarding the rejection of independent claims 1, 5, and 12, these are now clearly not anticipated by Martin. Martin does show multiplexing tribs into a supercarrier, followed by demultiplexing at a far end to recover the original tribs. However nowhere in the text, figures or claims is there any hint of doing the opposite, that is taking a supercarrier, demultiplexing it into tribs, then remultiplexing at the far end to recreate the supercarrier as claimed.

This is confirmed by the passage at page 2 line 17 to page 3 line 2 of the present application as originally filed which acknowledges as prior art EP 0874487, which is the European equivalent of Martin. It states that this prior art shows:

"transporting a plurality of tributary signals over a high rate network span, in which the trib signals are transparently multiplexed into a supercarrier signal ... ...The lower rate protocol used by the trib signals, e.g. STM-16 is maintained through the section of the network employing a higher rate protocol for the supercarrier signal..."

The Examiner is correct to point out that Martin shows a transparent multiplexer and shows a transparent demultiplexer. However, there is no disclosure of the claim feature of the supercarrier being demultiplexed into tribs, and at the far end of a span remultiplexing the transmitted tribs to recreate the supercarrier.

A second claim feature not shown in Martin is the messaging information for the supercarrier being included in the tribs. This second distinction follows as a consequence of the first. As stated at page 2 lines 23-25, of the present application, referring to the equivalent of Martin, "Transparent multiplexing requires continuity of ...overhead bytes necessary to maintain a lower rate data network across a higher rate span."

In contrast, since the present claims are concerned with transparent demultiplexing to maintain a higher rate protocol over a lower rate span, the messaging information is different, it is the messaging information of the higher rate protocol, the

supercarrier, which is passed through transparently, not the messaging information of the lower rate protocol.

For these reasons, claims 1, 5 and 12 are not anticipated. It also would not have been obvious to alter Martin to reach the invention, for the following reasons. The purpose of Martin is for "service providers to search for a solution that will increase capacity without forcing them to deploy additional fibers" (lines 13-15 of col 1). Martin makes it clear that "With this invention, an entire ring system does not have to be upgraded to a higher line rate due to fiber exhaust on a single span." (lines 52-54 of col 1). The purpose of the present invention is completely different. It is not concerned with increasing bit rates to get higher capacity from a given fiber, but with the opposite, of reducing bit rates to enable a high rate signal to work over a number of lower rate routes. Hence Martin teaches away from the present invention. As there is no suggestion in Martin of reversing its teaching, nor of the advantages that can be gained, it could not have been obvious to reach the invention from Martin taken alone or in combination with any other prior art.

Regarding claims 10, 11, and 18-21, these claims are distinguished by the second of the distinctive features set out above. The multiplexer or demultiplexer of Martin are both transparent in the sense of passing through the messaging overhead of the lower rate protocol, STM-16. There is no incentive to modify the multiplexer or demultiplexer to become transparent to the messaging overhead for the higher rate protocol as claimed, as this would defeat the purpose of Martin, to "maintain a lower rate data network across a higher rate span.". It would only make sense to do so to

achieve maintaining a higher rate network over a lower rate span, as claimed in claims 1,5 and 12. As this would not have been obvious, claims 10, 11 and 18-21 would therefore not have been obvious either. The rejections of the other claims fall away as they are dependent on allowable claims or have corresponding distinctive features.

All the points raised have been dealt with and favorable reconsideration is requested.

March 7, 2003

Respectfully submitted,

William M. Lee, Jr.
Registration No. 26,935
Barnes & Thornburg
P.O. Box 2786
Chicago, Illinois 60690-2786
(312) 368-6620
(312) 368-0034 (fax)

Version With Markings To Show Changes Made

1. (Once amended) A method of transporting a supercarrier signal over a network span, the method comprising the steps of:

transmitting said supercarrier signal, including messaging information, using a first protocol;

transparently demultiplexing said supercarrier signal into a plurality of trib signals;

transmitting said trib signals over said network span using a second protocol;[and]

whereby the messaging information required to maintain said first protocol is included in said trib signals; and

after the transmission over the network span, transparently remultiplexing the trib signals into the supercarrier signal including the messaging information.

5. (Once amended) Apparatus for transporting a supercarrier signal [over a network span including:

a network for transporting said supercarrier signal,] including messaging information, received using a first protocol; over

a network span comprising a plurality of low bit rate network sections for transporting a plurality of trib signals using a second protocol; the apparatus having:

a transparent demultiplexer coupled [connected] to receive said supercarrier signal [said network and said network span for demultiplexing] and demultiplex said supercarrier signal into said trib signals for transmission over said network span; [and]

wherein said demultiplexer includes means for inserting into said plurality of trib signals the messaging information required to maintain said first protocol, and

a multiplexer connected between said network span and said network, for transparently remultiplexing the trib signals into the supercarrier signals including the messaging information.

10. (Once amended) A transparent demultiplexer comprising:

an input for receiving a supercarrier signal transported using a first protocol;

a plurality of outputs for transmitting a plurality of trib signals using a second protocol;

means for demultiplexing said supercarrier signal into said trib signals; and

means for extracting messaging information, required to recreate the supercarrier signal from the trib signals after transmission, according to [maintain] said first protocol, from the supercarrier signal and inserting said messaging information into the trib signals.

11. (Once amended) A transparent multiplexer comprising:

an output for transmitting a supercarrier signal using a first protocol;

a plurality of inputs for receiving a plurality of trib signals transported using a second protocol;

means for multiplexing said trib signals into said supercarrier signal; and

means for extracting messaging information from the trib signals and using said messaging information to recreate the supercarrier signal from the trib signals after transmission, according to [maintain] said first protocol.

15. (Once amended) An optical communication network arranged to support, using a first protocol, the carriage of a supercarrier signal including messaging information through the optical communication network, the optical communication network further including:

a network span comprising at least one low bit rate network section for transporting a plurality of trib signals using a second protocol;

a transparent demultiplexer connected to said network span for demultiplexing said supercarrier signal into said trib signals; and

wherein said demultiplexer includes means for inserting into said plurality of trib signals the messaging information required to recreate the supercarrier signal from the trib signals after transmission, according to [maintain] said first protocol.